1998-1999

AIAA ANNUAL REPORT

Sam F. Iacobellis
PRESIDENT

Supplement to *Aerospace America*

AIAA AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS

HONORS AND AWARDS

This year brought accolades to many AIAA members. The American Institute of Aeronautics and Astronautics (AIAA) is proud to announce recipients of its major awards that were presented at AIAA's Global Air & Space '99 International Business Forum held 3-5 May 1999. These honors are a mark of distinction and a recognition of outstanding effort and vision in science, engineering, and public leadership.

GODDARD ASTRONAUTICS AWARD

Peter G. Wilhelm
Director, Naval Center for Space Technology
Naval Research Laboratory

For extraordinary engineering, astute leadership, and zealous dedication to excellence in responding to the needs and advancing the technology of the United States Space Program.

REED AERONAUTICS AWARD

James A. "Micky" Blackwell Jr.
President and Chief Operating Officer, Aeronautics Sector
Lockheed Martin Corporation

For distinguished contributions and achievements in the engineering development and management of aeronautical systems through the use of the Integrated Product Team/Concurrent Engineering concept and for leading the design and development of the F-22 Raptor program.

INTERNATIONAL COOPERATION AWARD

Ian Pryke
Head, European Space Agency Washington (DC) Office

For indefatigable efforts in promoting international cooperation between the National Aeronautics and Space Administration and the European Space Agency, particularly in the Space Station Freedom and International Space Station programs, and for outstanding leadership in furthering the international exchange of space information.

DISTINGUISHED SERVICE AWARD

Philip D. Hattis
Principal Member of the Technical Staff
Charles Stark Draper Laboratory

For sustained excellence in serving public policy for the aerospace community in committee assignments, dialog, and other government relations initiatives.

PUBLIC SERVICE AWARD

Presented posthumously to
John Holliman
National Correspondent
Cable News Network (CNN)

In recognition of distinguished service for the civil space program and for providing inspiration to the public on the benefits of space exploration.

AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS FOUNDATION AWARD FOR EXCELLENCE

The AIAA Foundation Award for Excellence is presented to John Glenn for capturing the imagination of the world with his recent return to spaceflight.

John Glenn
United States Senator
NASA Astronaut

THE EDUCATOR ACHIEVEMENT AWARDS

The AIAA Foundation is proud to announce the winners of the 1999 Educator Achievement Award. This award is presented to AIAA precollege (K-12) educators who have demonstrated exemplary efforts in facilitating the continued study of mathematics, science, and related technical studies among America's youth.

Virginia R. Davis
College Street Elementary
Manchester, Tennessee

Carolyn Harden, Dan Caron, John Henrici
DuVal High School
Lanham, Maryland

Alan G. Horowitz
Felix V. Festa Middle School
West Nyack, New York

Anthony Matarazzo
Northeast High School
Philadelphia, Pennsylvania

Sue McInerney
Martin Elementary School
Manchester, Connecticut

Paul Stengel
Shoreham-Wading River High School
Shoreham, New York

The following award was presented 13 April 1999 at the AIAA Structures, Structural Dynamics and Materials Conference. The Prize is awarded every four years for excellence in aerospace materials, structural design, structural analysis, or structural dynamics and includes all associated disciplines. The award consists of an engraved gold medal, certificate of citation and a $100,000 honorarium.

WALTER J. AND ANGELINE H. CRICHLOW TRUST PRIZE

Lucien A. Schmit Jr.
Rockwell Chair Professor of Aerospace Engineering (Emeritus)
UCLA School of Engineering and Applied Science

For pioneering seminal contributions to the initiation of structural optimization and multidisciplinary design and their evolution from abstract concepts to widely used practical tools.

AIAA President's Report

Sam F. Iacobellis
AIAA President
1998–1999

As Scottish journalist B.C. Forbes—the founder and first editor of *Forbes* magazine—once wrote: "Ideas are the raw material of progress. Everything first takes shape in the form of an idea. But an idea by itself is worth nothing. An idea, like a machine, must have power applied to it before it can accomplish anything."

For me, that single quote speaks of the thrill of invention, the elegance of engineering, the "ah-ha!" moment of problem-solving. The heart of AIAA.

As aerospace evolves in ways we never predicted, AIAA evolves along with it. One indicator of this is our growth in international membership.

Total professional membership increased last year to a total of 30,615. Within this membership base, our international members increased to 4,579 and now represent almost 15 percent of the total. I'm sure some of this is caused by the organization of our Australian section last year, but our international conferences help also.

Based on the success of AIAA's 17th International Communications Satellite Systems Conference (ICSSC) and Exhibit held this year in Yokohama, Japan, a group of AIAA members there formed a subcommittee of the Technical Committee on Communications Systems (TCCS). This will allow them to harness the momentum created by interest in the conference and generate, on an ongoing basis, activities beneficial to a number of aerospace disciplines in Japan.

This evolution is also seen in our Technical Activities Committee. Their efforts at continuous improvement have resulted in several short tutorials given in coordination with a conference. These have proven very popular as they give members a chance to update their knowledge of a topic at a low cost without additional travel or time away from the office.

Education as a theme has permeated the Institute. The AIAA Foundation, created just two years ago, has evolved into the leading provider of graduate and undergraduate scholarships to aerospace engineering students. Its innovative sponsorship of annual design competitions provides students with team-based experiences, working to solve real-world problems.

Other educational activities this past year include the AIAA Regional Student Conferences. Organized by the six regions (with partial support from the AIAA Foundation), these conferences are among the most rewarding programs offered to our student members. Last spring, student conference attendees totaled 551 from SUNY Buffalo, Virginia Polytechnic Institute & State University, Georgia Institute of Technology, Michigan State University, Louisiana State University, United States Air Force Academy, and California State Polytechnic University-Pomona. There were 123 student papers presented.

This year was another strong one for our professional development short courses. Thirty-seven courses were held, reaching more than 650 AIAA members and nonmembers. This represents a two-fold increase in both course offerings and students reached since 1996. In FY99, we hope to continue this trend, with 39 courses already scheduled.

Educating Congress and ourselves was the goal of Congressional Visits Day. This year more than 100 members braved a late-season snowstorm to educate Congress and the Executive Branch regarding the need to support long-term research and development throughout NASA and DoD. It was also a chance to inform and educate policy-makers about the many engineering and scientific disciplines that comprise the aerospace workforce. This activity was truly an opportunity for all AIAA members to communicate their areas of expertise or fields of study to congressional officials, many of whom may know very little about the aerospace profession.

As we move into the next millennium, AIAA will be evolving even more.

As we continue evolving toward the future, we will also take time to celebrate the strides we've already made.

CELEBRATING THE EVOLUTION OF FLIGHT

AIAA has launched the initial phase of its vision to celebrate the inaugural Wright Brothers' flight. AIAA has developed a four-year strategy to commemorate the centennial of powered flight. This initiative extends through the year 2003, as AIAA will create a comprehensive array of programs to engage all levels of the membership in supporting this effort.

The theme and concept is called AIAA's Evolution of Flight campaign, with a goal for the Institute to serve as one of the lead organizations to mark this momentous occasion. The primary purpose for the Evolution of Flight is to increase public awareness on the societal benefits from aviation and space-related technology, the advancements fueled by aerospace-related research and development, and the opportunities derived from spin-off technologies that originated from aerospace.

In January 1999, AIAA's Board of Directors approved funding for a multi-million dollar international Evolution of Flight campaign. The Institute has formed a program committee representing AIAA sections, regions, and standing and technical committees, as well as representatives from corporate member companies, to develop an integrated and sustainable membership-wide outreach that will possess a mixture of education opportunities and create public awareness.

AIAA's Evolution of Flight campaign will continue to evolve. However, we have laid the foundation of our campaign to encompass many of the following elements:

- The International Symposium and Exposition in Celebration of 100 Years of Powered Flight. The Symposium will take place 14-17 July 2003 in Dayton, Ohio, and will cover the past, present, and future of the four facets of the aerospace community: commercial, military, general aviation, and space.
- A historical video of international pioneers in the aerospace community highlighting their contributions and perspectives in aviation and space.
- The Class of 2003 Ambassadors program. Boys and girls currently in the eighth grade competed to become AIAA Class of 2003 Ambassadors. Our new Ambassadors were recognized at the AIAA Honors Night Banquet and will attend two events per year organized by the Institute. The Ambassadors in turn will promote the centennial and their experiences to their classmates and community. In addition, the Young Professional Member Committee assigned a young professional member to mentor each Ambassador.
- The AIAA Foundation Orville and Wilbur Wright Brothers Graduate Fellowships. Two fellowships will be granted annually beginning in 2003.
- Learn to Fly Scholarships. In the year 2003, AIAA will provide matching contributions to students who want to learn how to fly.
- A Web site to promote AIAA's Evolution of Flight activities and to generate public interest in this international celebration.
- Sponsorship programs for organizations, both affiliated and non-affiliated within the aerospace community, to support program expansion to build a broader awareness for the importance of the progress of aerospace-related technology worldwide. Targeted industries include media, entertainment, publishing, airlines, automotive, computing/information technology, manufacturing, etc.

In addition to the program plans, AIAA is working with the Aerospace Industries Association to establish the 2003 Aerospace Roundtable to help industry representatives share information. Participation will allow organizations to speak with one voice to the national Centennial of Flight Commission.

The Evolution of Flight campaign serves as one of the boldest initiatives ever undertaken by AIAA. It will provide a platform for AIAA to expand its reach into many new and emerging areas, offer the membership a coordinated program to reach out to the K-12 community, and generate tremendous visibility for past, present, and future efforts of the aerospace profession. Most of all, this marks the start of the next hundred years in the evolution of aeronautics and astronautics. ■

Dr. Robert Braun of NASA Langley Research Center receives the Lawrence Sperry Award from AIAA President Sam Iacobellis at the 1999 Aerospace Sciences Meeting.

EDUCATION

Ira Jacobson
Vice President

AIAA's educational programs provide strong contributions to the Institute, the profession, prospective and current aerospace engineering (AE) students, and practicing professional members. The volunteers and staff continue to seek and implement effective programs as in the past.

ACADEMIC AFFAIRS COMMITTEE

The Academic Affairs Committee (AAC) continues to work to enhance engineering and technical education in aerospace disciplines by fostering collaboration among educational institutions, accreditation agencies, aerospace corporations, and government agencies.

The AAC continues to provide training for accreditation visitors and to serve as AIAA's interface with the Engineering Accreditation Commission and Technical Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Training sessions have been conducted for the new Engineering Criteria (EC) 2000 at the 36th and 37th Aerospace Sciences Meetings with 35 potential program visitors now having undergone training. Two AE programs have elected to undergo EC 2000 visits thus far with the new criteria becoming mandatory in fall 2000. In order to continually improve the quality and consistency of our accreditation process, the AAC has established a subcommittee to oversee visitor training and assignment, review visit reports for consistency, and assess visitor performance. The subcommittee conducted initial reviews for the eight fall 1998 AE visit reports during the 37th Aerospace Sciences Meeting.

The AAC continues to support educational sessions at the Aerospace Sciences Meeting and at the World Aviation Congress. A more formalized liaison with the Aerospace Division of ASEE and the Industry/University/Government Roundtable to Enhance Engineering Education (IUGREEE) is being developed to better coordinate aerospace education activities at the various meetings sponsored by the respective organizations. The AAC also continues to plan educational components for the 2003 Evolution of Flight centennial.

Discussions are under way between AIAA and the Aerospace Department Chairs Association (ADCA) for a more formal relationship. The AAC is also working to develop closer collaboration with the Student Activities Committee, the Professional Member Education Committee, and the Precollege Outreach Committee in areas of mutual interest such as the Evolution of Flight centennial and computer-based distance education.

STUDENT ACTIVITIES COMMITTEE

As of 31 January 1999 student membership was 3,418, down from 3,730 in 31 January 1998. Part of this change has come about through the implementation of our new automatic upgrade from student to professional status. During this same period we have generated a total of 1,634 new professional members. A membership recruitment contest is currently under way with student branches competing for cash prizes.

The AIAA Regional Student Conferences are among the most rewarding programs offered to our student members. Last spring, student conference attendees totaled 551 from the State University of New York-Buffalo, Virginia Polytechnic Institute & State University, Georgia Institute of Technology, Michigan State University, Louisiana State University, United States Air Force Academy, and California State Polytechnic University-Pomona. There were 123 student papers presented.

The AIAA Foundation provided $2,100 for awards to each Regional Conference and $45 for each attending student to help defray their expenses. The remaining support was achieved through regional fund raising. First-place winners of each regional conference compete at the National Student Conference, which is held every year in conjunction with the Aerospace Sciences Meeting. This year's National Student Conference winners were Jeffrey Mach from the University of Texas at Austin (graduate category) and Zack Hoisington from California Polytechnic University-San Luis Obispo (undergraduate category). Each National Student Conference winner receives a check for $1,000.

Design Programs—Eight AIAA Foundation design competitions were held in different design disciplines at undergraduate and graduate levels. Topics and engineering specifications for these competitions are solicited from AIAA Technical Committees. The undergraduate team Aircraft and Spacecraft competitions had the greatest number of entries with 21 and 17 teams respectively. The Ground Testing Technical Committee (GTTC) also sponsors an engineering contest; the Student Design/Build/Fly Competition continued in the 97/98 school year with 17 entries and 34 teams scheduled to participate in the 98/99 year. Students will build and fly a small electric-powered remote-controlled plane over a predefined course in a limited time. The enhanced design competitions will provide first- ($2,500), second- ($1,500), and third-place ($1,000) prizes, for most design competitions. The team leaders of the first place team will be invited to present their work at a related conference.

Scholarships—The AIAA Foundation Undergraduate Scholarship Program had a decrease in applications from 101 in 97/98 to 82 in 98/99. For 98/99, 30 undergraduate scholarships of $2,000 were awarded.

Along with the undergraduate scholarship program, the AIAA Foundation also awards a $5,000 stipend to graduate students in the areas of air breathing propulsion, propellants and combustion, general aviation, and guidance, navigation and control, sponsored by the respective AIAA technical committees. There are also five open topic graduate awards with a $5,000 prize in each topic area. Last year there were 13 entries submitted for the open topic award. The newly created Guidance, Navigation and Control (GNC) award is the first AIAA Foundation award that is open to any student regardless of nationality or location of school and will be awarded for the first time in 1999.

The Abe M. Zarem Award for Distinguished Achievement in Astronautics was presented to Bob Bocchieri from the University of Texas at Austin and the Abe M. Zarem Award for Distinguished Achievement in Aeronautics was presented to Ryan Starkey from the University of Maryland. The winner in each category presented his work at the International Astronautical Federation (IAF) and International Council of the Aeronautical Sciences (ICAS) Conferences respectively. Both were held in Melbourne, Australia.

PROFESSIONAL MEMBER EDUCATION COMMITTEE

FY98 was another strong year for AIAA Professional Development. Thirty-seven courses were held, reaching more than 650 AIAA members and non-members. This represents a two-fold increase in both course offerings and students reached since 1996. In FY99, we hope to this continue this trend, with 39 courses already scheduled.

The involvement of AIAA's technical committees (TCs) has been instrumental both in expanding the breadth and in preserving the quality of our professional development offerings. Last year, 10 TCs proposed or sponsored AIAA courses, while many others provided the invaluable service of evaluating proposed courses for content and member interest.

As we move into FY99, AIAA will be looking for avenues to expand its traditional professional development while keeping an eye to the future. The Professional Member Education Committee is actively exploring methods for AIAA to offer Web-based courses.

PRECOLLEGE OUTREACH COMMITTEE

The Precollege Outreach Committee (POC) had a very successful year. We now have 471 Educator Associates; Educator Associates are K-12 teachers interested in aeronautics and astronautics. They receive help from AIAA in the form of classroom materials and interact as much as possible with local AIAA sections to get students excited about math and science. They are also eligible for the AIAA Foundation Classroom Aid Fund, another of the highly successful POC programs. Educator Associates submit proposals for $200 or less to purchase hands-on science and math materials. These proposals are evaluated by the POC members under strict criteria, ensuring the money is invested in materials focused on hands-on applications and good scientific principles. A total of $20,000 will be invested in FY99, impacting 10,000 students.

The POC is also involved in preparations for the 2003 Evolution of Flight centennial. The committee is specifically working on assembling Classroom Flight Kits to be presented in classroom programs, with accompanying kits to remain in the schools for use by teachers. Kits will include lesson plans relating to the history of flight with viewgraphs and instructions for hands-on demonstrations, workbooks, videos, models of the Wright Flyer or other aircraft, and commemorative items to leave with the students.

Several new initiatives have been launched this year. AIAA staff has developed models, stickers, and a recognition certificate for members to hand out at schools. The committee is working with several of our TCs to develop more materials for classroom use, both by AIAA members and teachers. We have integrated teachers and students into Congressional Visits Day and are adding teacher workshop presenters to the Distinguished Lecturer Program to assist sections in enhancing local programs.

The Precollege Outreach Committee is also very pleased to announce that eight K-12 teachers were recognized with AIAA Foundation Educator Achievement Awards at the Global Air and Space '99 International Business Forum and Exhibition in May 1999. ■

INTERNATIONAL ACTIVITIES

Paul Kutler
Vice President

INTERNATIONAL STRATEGIC PLAN

The provisions of the International Strategic Plan, which was approved by AIAA's Board of Directors in August 1997, have started to enjoy some important momentum throughout 1998. As you know, the strategic plan established five major goals:

1) To establish new products and services as well as enhance existing ones; 2) To increase the effectiveness of AIAA by acting as an agent for cooperation; 3) To increase the recognition of non-U.S. members and their participation in the Institute's activities and leadership; 4) To enhance cooperation through the establishment of strategic alliances with similar non-U.S. organizations; and 5) To retain and increase the number of non-U.S. members.

Because it is AIAA's belief that the needs, concerns, and issues facing the aerospace professional are universal, AIAA has begun to aggressively pursue these goals under the aegis of a "Global Aerospace Network." The goal of such an effort is to electronically link the myriad of worldwide aerospace professionals to support a vastly improved communication network among societies, institutes, and associations that support the development and expansion of the aerospace profession around the world. Many activities that have been pursued throughout 1998 were focused on laying the cornerstones of such a network for AIAA.

I am proud of the many changes that are now under way which directly support our efforts in this area.

- The international area of AIAA's Web site has been redesigned into a more dynamic format. Future plans include having this section translated into six major languages—and possibly the full translation of the entire AIAA Web site.
- The International Activities Committee (IAC) is cooperating with the Regional Section Activities Committee (RSAC) to examine the establishment of new processes to facilitate the establishment of non-U.S. Sections. Additionally, enhanced statistical tracking systems have been created to better understand non-U.S. member growth patterns by region in AIAA's ranks.
- Exploratory conversations have been held with a number of potential "partner countries." Japan, China, Indonesia, Hungary, Argentina, and Brazil have all expressed a desire to "enhance" regular communications and information exchange with AIAA as a first step toward formalizing relations through cooperative agreements or strategic alliances.
- AIAA assisted the Australian Section in organizing a Distinguished Guest Lecturer Program in September 1998 in Sydney for AIAA members in Australia.

INTERNATIONAL OUTREACH

Based on the success of AIAA's 17th International Communications Satellite Systems Conference (ICSSC) and Exhibit on 23-27 February 1998, held in Yokohama, Japan, a group of AIAA members in Japan engaged AIAA in a series of discussions to explore the potential for the establishment of an AIAA Section. The primary objective was to continue focused and sustained activities initiated by the successful 17th ICSSC. It was evident that in doing so the AIAA members could harness the momentum created by interest in the conference and generate—on an ongoing basis—activities beneficial to a number of aerospace disciplines in Japan.

Although the immediate activities of the AIAA members in Japan would focus on satellite communications, it was envisioned that those activities would eventually be broadened to include other aerospace disciplines.

AIAA was supportive of the proposal contingent upon two major points: 1) that AIAA be allowed to perform its due diligence with the Japan Society for Aeronautical and Space Sciences, and; 2) that a plan be developed to expand Section activities and governance opportunities to include participation by AIAA members from other aerospace disciplines.

As a result of careful coordination, it was determined that the best course of action would be to form a subcommittee of AIAA's Technical Committee on Communications Systems (TCCS) to enable them to concentrate on their primary area of technical interest. In discussions with the current and incoming AIAA Vice Presidents of Technical Activities, coupled with the support of the TCCS Chair, it was determined that AIAA members in Japan would be allowed to formally organize under the AIAA umbrella using a unique model. The plan was formally approved by TCCS in a unanimous vote at their 20 November 1998 meeting in Washington, D.C.

Thus, the AIAA Japan Forum on Satellite Communications (AIAA-JFSC) subcommittee of the TCCS was established. Currently, the AIAA-JFSC proposed activities include monthly meetings, exhibits, and workshops for research presentations sponsored or cosponsored with other organizations on an annual basis. In addition, a Japan Aerospace Communications Award will be awarded annually. This award was first established at the 17th ICSSC and plans for its continuation are in place as a part of the AIAA-JFSC activities.

HONORS AND AWARDS

I am pleased to announce the election of Professor Boris Laschka of the Technical University of Munich to the grade of Honorary Fellow. Also, the following members are newly elected Fellows: Itzhack Y. Bar-Itzhack, Technion-Israel Institute of Technology; Pierre C. Bétin, SNECMA, France; John E. Green, Aircraft Research Association, UK; Walter Kröll, DLR, Germany; and Vladimir Sosounov, CIAM, Moscow.

I am also very pleased to announce that Ian Pryke–a member of the IAC and Director of the Washington Office of the European Space Agency–is the recipient of the AIAA International Cooperation Award.

INTERNATIONAL PUBLISHING

Over the years AIAA has published a number of books from international authors. To date, these opportunities have come either over the transom or by way of collaborative undertaking with international publishers. AIAA presently holds co-publication and co-distributions with five international publishers. The "over the transom" submission still constitutes a large percentage of AIAA book publications.

To date, there have been as many as 13 international authors in the AIAA Education Series, 20 in the Progress Series, and approximately 13 in the general interest and case study categories. In addition to these, most edited volumes within the Progress Series have international contributions.

The nations represented among our authors include Canada, the United Kingdom, Australia, India, France, Germany, Russia, Italy, Israel, Netherlands, and most recently, Brazil. AIAA publications have also been translated into Chinese, Japanese, and Russian; at present we are considering three Russian books for translation.

AIAA's book program is continuing to look internationally and its proactive acquisition program is growing, with international authors playing a significant role. AIAA attends the Frankfurt Book Fair each October to widen our circle of partners, to bring quality international authors to the U.S. market, and hopefully to bring U.S. authors to other parts of the world.

AIAA also publishes the International Astronautical Federation Annual Congress preprints as well as the proceedings of the congresses of the International Society of Air-Breathing Engines, the International Council of the Aeronautical Sciences, and the International Institute of Space Law.

INTERNATIONAL CONFERENCES AND WORKSHOPS

AIAA organized, sponsored, or co-sponsored many international conferences and seminars during the last year, such as: Global Air & Space '98 International Business Forum and Exhibition, Arlington, Virginia; 5th St. Petersburg International Conference on Integrated Navigation Systems, Russia; 4th AIAA/CEAS Aeroacoustics Conference, Toulouse, France; 2nd International Airship Convention and Exhibition, Bedford, United Kingdom; and 2nd World Conference on Structural Control, Kyoto, Japan.

UNISPACE III Conference and Exhibition

AIAA is playing a significant role in the 3rd United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) to be held in Vienna, Austria, 19-30 July 1999, as the organizer of the Exhibition and the coordinator of several technical events. The conference is to serve as a forum to construct a practical, well-defined framework for the global society to maximize the benefits of space science and technology through international cooperation in space activities in the years ahead.

5th International Space Cooperation Workshop

Sponsored and organized by IAC, this fifth in a series of workshops dealing with international space cooperation held in Bermuda, 11–16 April 1999, included 65 participants from 18 countries. Following the work of the previous workshops, it focused on specific problems of global significance, such as Global Navigation Satellite Systems and Commercialization of Space Projects.

CONCLUSION

In conclusion, I would like to acknowledge the contributions of the members of the IAC who have actively participated in all the activities mentioned above. ■

Teresa Jordan-Culler
Vice President

The 66 AIAA Sections led a great variety of quality programs for our membership this year. We are proud to report that the retention rate for membership has increased to 83%, a 2% increase over 1997-98 figures.

All of the Regions continue to provide significant funding and professional member organization of the Regional Student conferences. Burdened by decreases in funding and corporate donations, the conference organizers continue to offer a first-class, professional forum for engineering students to present their work and experience all that AIAA has to offer.

Several individual AIAA members received prestigious national awards, upgrades to Honorary Fellow, Fellow, and Associate Fellow, and Best Paper Awards, particularly in Regions I and VI where the majority of our AIAA members reside.

Implementation of the Membership Committee's recruitment and retention plan has produced very positive results; membership now stands at 31,000. More than 6000 new members were recruited during the past year. An aggressive follow-up program by the Sections has raised the member retention rate to 83%—the highest that it has been in several years. The Membership Committee developed and sponsored a new award, the AIAA Sustained Service Award, which will recognize up to 20 individuals per year who have given sustained, significant service and contributions to the Institute in many varied activity areas. For the sixth year in a row, the ad hoc Dues Committee recommended no dues increase.

The Young Member Committee made significant progress in communicating with young professional members by sponsoring two well-attended receptions, one at the AIAA Western Office and one at the Aerospace Sciences Meeting in Reno, NV. In fact, one young professional found a job at the reception in Reno! The Young Member Committee has taken on the responsibility of championing the 2003 Ambassadors Program, which will provide unique opportunities of an aerospace twist to children who will be high-school seniors in the year 2003.

The Career Enhancement Committee (CEC) focused on the continued improvement of the Career Opportunities and Services area of AIAA's Web site. The Web site was also improved by giving employers the ability to have their job postings placed on the Web within 24 hours instead of waiting for the normal *Aerospace America* advertisement cycle. The committee also continued to sponsor a career workshop at the Aerospace Sciences Meeting with four CEC speakers presenting to more than 50 member participants.

Region I strongly participated in the March 1999 Congressional Visits Day in Washington, D.C. Special corporate-sponsored events were scheduled across Region I and many Sections saluted Engineer's Week, often coordinating their activities with other engineering societies. Region I supports the 2003 Evolution of Flight Committee, and many Sections are planning their own special events. The 97/98 Xtreme, Top, and High Flight Honors were awarded for the best Region I Section and Student Section Web sites.

Region II Sections offered an outstanding array of programs and activities to our membership, such as Alabama/Mississippi Section's meeting featuring aerospace visionary Burt Rutan of Scaled Composites. Palm Beach, Central Florida, and Cape Canaveral Sections joined forces this spring on an outstanding field trip to the annual Tico Warbird Airshow in Titusville. An outstanding example of precollege outreach is the Savannah Section's leading role in the development, construction, and operation of an educational wind tunnel that travels to many school demonstrations. The Savannah Section, a small section, increased its membership by 31% (20 new members!) at one meeting featuring its congressman. The Southeastern Regional Student Conference marked its 50th anniversary this year with a special Semi-Centennial Student Conference.

Region III is developing a reputation for first-class student outreach programs. Dayton/Cincinnati, Wisconsin, Northern Ohio, Illinois, Columbus, and Central Indiana all put on outstanding programs for students with interest in science and technology. The efforts of the Northern Ohio Section in teaming with the technical side contributed greatly to the success of the 1998 Joint Propulsion Conference. The revitalization of the Region III Student Paper Conference was a top priority for the region. It was hosted by the Ohio Aerospace Institute, and there was a tremendous increase in attendance and papers presented, along with career opportunities presented to the students. Region III is a big player in the plans to celebrate the 2003 Evolution of Flight in Dayton.

Region IV increased the use of teleconferences to help integrate the Australian Section into their group discussions. In their first year of operation, the Australians won their first section award for the best newsletter in the small category. The Albuquerque Section made arrangements with the New Mexico Academy of Science Visiting Scientist Program to help develop 45-minute presentations on science or engineering topics for presentation to New Mexico schools. Holloman/Alamogordo presented a meeting that dealt with the testing of the Space Maneuver vehicle at Holloman Air Force Base. North Texas held its traditional mini-symposium with local paper presentations.

Region V In the Wichita Section developed a plan that varied program time and subject matter to attract members of all age groups and interests. The St. Louis Section held a Science Extravaganza, drawing hundreds of participants from various professional societies, local universities, and the general public. The Rocky Mountain Section had one of its most successful meetings—over 140 professional and student members attended a program on the F-22: Flight Test and Engineering Issues at the Air Force Academy. The Regional Student Conference hosted more than 100 attendees from eight schools and generated a joint professional development program between five schools in four states.

Region VI had a tremendous year, increasing in overall membership and member participation in AIAA activities and awards. The student paper conference, held at California Polytechnic-Pomona, was very successful as measured by the number of students in attendance and the quality of the papers. The number of teachers participating in the Educator Associate Program increased 26%. Most Region VI sections and the national organization took part in the annual Public Policy Colloquium in February. In a special award, the Los Angeles Section received recognition for Outstanding Section Event for its Wright Flyer Project. Tthe first annual professional and student chapter Region VI Web site awards were given.

We were deeply saddened to learn a few months ago of the sudden death of Neil Blaylock, 1995-98 Region IV Director and Principal Analyst at Southwest Research Institute. Neil was an inspiration to all who aspire to volunteer for their professional society or other causes. Neil carried out his duties with organization, precision, and clarity and was always ready to sign up for one more special project. Neil will be greatly missed by many friends and colleagues in the aerospace community.

As this is the last report of my term as Vice President-Member Services, I give thanks to those who have made my job much easier for the last three years and for the dedicated leadership of our Regional Directors and Committee Chairs: Cliff Reinert, Steve Justice, Chris Pestak, John Madden, Julie Morrow, Ken Sanger, Bob Noblitt, Dave Bradley, and Jeff Morrow. The tremendous contributions of our regional Deputy Directors, Section volunteers, and AIAA staff are the main reasons for the continued excellence of the AIAA local organizations. I know that AIAA will see many accomplishments in the future under the outstanding leadership of my successor, John Whitesides. ■

AIAA President Sam Iacobellis (back center) poses with AIAA members before the June 1998 Regional Leadership Conference. Pictured (left to right) are: Region IV Director John Madden, Region VI Director Kenneth Sanger, Australian Section Officer Justin Talbot-Stern, Region V Director Julie Morrow, Vice President-Member Services Teresa Jordan-Culler, Australian Section Officer Steven Vidakovic, and Houston Section Chair Russell Filler.

PUBLICATIONS

John Anderson Jr.
Vice President

INTRODUCTION

Publications Committee:

The Publications Committee welcomed several new members during the past year: John Junkins (Texas A&M University), Darryll Pines (University of Maryland), Roger Simpson (Virginia Polytechnic Institute and State University), and Yvette S. Weber (U.S. Department of the Air Force).

The Publications subcommittees, reorganized a year ago, effectively carried out their respective charters. The Publications Review Subcommittee oversaw in-depth reviews of the *Journal of Spacecraft and Rockets* and our premier textbook series—the *AIAA Education Series.* The Awards Subcommittee selected Vinod Modi as the recipient of the 1999 Pendray Aerospace Literature Award for his outstanding contributions to aeronautical and astronautical literature and selected William Heiser and David Pratt as recipients of the 1999 Summerfield Book Award for their *AIAA Education* Series volume titled *Hypersonic Airbreathing Propulsion.* The Journal Editors-in-Chief and the Book Series Subcommittee continued oversight of the Institute's technical publications.

Journals: Member circulation received a welcome boost as one result of a massive late-summer membership campaign, reversing a gradual decline that had been taking place for the past several years. The library market, on a month-to-month basis, varied in circulation from a little lower than a year ago to a little higher. Holding our own, though, is seen as a positive sign in this era of continually decreasing library budgets.

One subscription category, "nonmember individuals," was discontinued because of a lack of interest on the part of potential subscribers. It had been thought that some companies might pay for their employees' subscriptions but not necessarily their society memberships, and therefore that we might gain subscriptions by adding the new category. After several years, during which we promoted this option, it became obvious that there was no interest and hence it has been discontinued.

Books: Sales for the *Progress in Astronautics and Aeronautics* declined in FY98 compared to FY97. This decrease was offset, however, by increased sales in the *AIAA Education Series.* Overall book sales (including case studies and the general publications categories) were higher than in the previous year.

Eighteen books were published during FY98, two less than in the previous year, primarily because of author delays in completing the manuscripts.

PUBLICATION HIGHLIGHTS

Journals: The journals published 6,548 pages during FY98. The average time from a paper's acceptance to its publication date currently averages just over 20 weeks. This is slightly longer than the time it took a year ago but still keeps publication delays to an acceptably low level. During FY98, the journals published the following special sections (or, in some cases, entire special issues):

AIAA Journal:
—Credible Computational Fluid Dynamics Simulations
—Microgravity
Journal of Guidance, Control, and Dynamics:
—Nonlinear Dynamical Systems
Journal of Propulsion and Power:
—Space Transportation Propulsion

The FY99 special sections/issues have already begun to appear and will be itemized in next year's report.

Books: Eighteen titles were published in FY98 in the *AIAA Education Series, Progress in Astronautics and Aeronautics*, case studies, and the general publications categories, and an additional 16 are scheduled for FY99. The past year witnessed the publication of the fourth edition of the *AIAA Design Engineers Guide.* Sales in Europe doubled during FY98, thanks to our distributor in that region. We are investigating similar distribution agreements for Australia to further extend our sales reach.

AIAA's co-distribution program has expanded and now includes titles from McGraw-Hill, Blackwell Science, and Arnold. In addition, a pilot program to sell children's titles published by Scholastic was developed and launched at the 1999 Aerospace Sciences Meeting.

International Aerospace Abstracts: AIAA/Aerospace Access is the bibliographic database-producing process of AIAA. *International Aerospace Abstracts (IAA)* reaches out to a core list of subscribers in private industry, academia, and government. *IAA* subscriptions continue to decline, but it remains a viable AIAA product. The online Aerospace Database (from which our other secondary information products are derived) continues to show healthy growth. Aerospace Access has initiated and continues to pursue various distribution channels to further disseminate this valuable research tool. New product ideas, such as specialized segments of the database, have proven successful this past year, with potential for further development.

FINANCES

Journals: The journals finished FY98 with a positive net of $1450K ($54K less than budget). As of January 1999, the journals were running somewhat less than budget but still better than the prior year at the same time.

Books: The *AIAA Education Series, Progress in Astronautics and Aeronautics*, case studies, and general publications categories all finished FY98 less than budget (but, nevertheless, with a positive net). As of January 1999, the Progress in Astronautics and Aeronautics Series and the general publications categories were running less than budget, but the AIAA Education Series was on target.

IN THE WORKS...

The Publications Committee plans to take an active role in the 2003 Evolution of Flight celebration. Special history papers will be published in the journals covering the evolution of key technologies and two special books with historical emphases are planned. Also under consideration is a special biography series to highlight individuals who have made significant contributions to the evolution of flight over the past 100 years. An Editor-in-Chief will be appointed if this series comes to fruition. Planning efforts will intensify over the coming year, and definite publication commitments will be made. Meanwhile, the "brainstorming" phase will continue.

VOLUNTEER MILESTONES

Journals: George T. Schmidt was reappointed as Editor-in-Chief of the *Journal of Guidance, Control, and Dynamics;* R. H. Woodward Waesche as Editor-in-Chief of the *Journal of Propulsion and Power,* and E. Vincent Zoby as Editor-in-Chief of the *Journal of Spacecraft and Rockets.*

Literally thousands of reviewers, authors, and editors devoted their time and expertise to the Institute's six journals. They are, to a great extent, responsible for the continuing success of our publications program.

Books: John S. Przemieniecki was reappointed as Editor-in-Chief of the *AIAA Education Series* and Paul Zarchan was reappointed as Editor-in-Chief of *Progress in Astronautics and Aeronautics.*

The Editorial Advisory Boards of both books series were reconstituted, and new members were appointed during FY98. It is hoped that the new boards will make significant contributions to both the acquisitions and review processes.

THE YEAR AHEAD

Both volunteers and staff will continue to monitor the expanding world of electronic publishing and will be ready to take advantage of any opportunities that may arise. An Institute-wide "Aerospace Resource Center" is anticipated to be implemented this year that will serve as our initial attempt to capture in electronic form all possible data on our authors and papers, and eventually—when technology permits—the full text of everything published by AIAA. We have great hopes for the myriad of possibilities that will present themselves as a result of this powerful new tool.

Our primary goal continues to be to serve AIAA's individual members as well as the global marketplace of aerospace professionals. Please continue to provide us with your valuable feedback, so that we can better serve you in the coming year.

A FINAL COMMENT

The Vice President-Publications would like to express his appreciation for the expertise and dedication of the AIAA publications staff during the past year. This staff continues to look toward the future of enhancing AIAA publications across the board. ■

Virgil Smith
Vice President

Just as much of the aerospace industry continues to adjust to the current environment and to re-engineer our organizations and processes, we on the Technical Activities Committee (TAC) continue to apply re-engineering approaches to improve the value of our products, processes, and services for our membership.

A key focus this year has been to use the findings of the 1998 TAC Self-Examination in applying specific improvements to close the gaps between our TAC vision and the examination findings. Another key tool has been the use of facilitated workshops to gather together the TAC family, as well as cross-sections of the Institute's membership, to address vision, goals, objectives, and approaches for the 21st century. In May and August 1998, the TAC Family Workshops IV and V addressed initiatives in all parts of TAC's responsibilities. In January 1999, at the suggestion of TAC's New Initiatives Subcommittee led by Ron Bengelink, Workshop VI was conducted during the Aerospace Sciences Meeting in Reno. As a result of this event, specific initiatives and pilot efforts, as well as TAC "Champions" for each initiative were identified, and tentative schedules and milestones were identified for the next 9-12 months. These initiatives range from new conferences to improved communication networks to new "norms" for TAC processes. Progress on these initiatives will be reviewed at each upcoming TAC meeting.

Another priority focus has been identification and refinement of key metrics for each element of the TAC family and incorporation of these valuable improvement tools in normal TAC assessment and reporting. Working from a basis that "you can't improve a process or a product if you can't measure it," this re-engineering initiative offers quantifiable assessment measures for TAC's improvement. This complements the "Exemplary Practice" focus used to communicate throughout the TAC family the fine results of previous initiatives.

Another outstanding TAC-originated initiative is gathering momentum. The Evolution of Flight Committee is leading the planning for a year-long celebration in 2003 to mark the Evolution of Flight. Throughout the year 2003, at every AIAA function a special focus will be the impact that 100 years of powered flight has had on our industry, our lives, and the global community. The Evolution of Flight Committee will work closely with the 2003 Committee in Ohio and the First Flight Centennial Commission in North Carolina. Special events and promotional activities have already begun on the AIAA and International Council of the Aeronautical Sciences jointly sponsored International Symposium and Exposition in Celebration of 100 Years of Powered Flight, to be held in Dayton, Ohio, hometown of the Wright Brothers, on 14-17 July 2003. MARK YOUR CALENDARS and PLAN TO BE A PART OF THE CELEBRATION!

AEROSPACE SCIENCES GROUP

Director-Technical: David Throckmorton

Deputy Directors: Lee Sentman and Brian Lee

This very active Group led the way on the successful 37th Aerospace Sciences Meeting, which is still the largest annual AIAA conference and site of meetings for most TCs. The Group's TCs also sponsor their specialists' conferences throughout the year: Aeroacoustics, Aerodynamic Measurement, Fluid Dynamics, Plasmadynamics and Lasers, Thermophysics, Applied Aerodynamics, Atmospheric Flight Mechanics, Astrodynamics, and Guidance, Navigation, and Control. The Group continues its exemplary model of co-locating conferences that have a high degree of information cross-feed. This Group's TCs are also exemplary in the short courses and tutorials they offered at conferences.

AIRCRAFT TECHNOLOGY INTEGRATION AND OPERATIONS GROUP

Director-Technical: Jerry Hefner

Deputy Directors: Don Richardson and Bill Rhodes

Led by the Aircraft Design TC, the Flight Test TC, and the Group Director, this Group continued its outstanding support of the premiere "aircraft systems meeting" —the World Aviation Congress. In addition, the V/STOL TC is developing a strategy to support development of V/STOL Centers of Excellence at major U.S. universities. The Aircraft Design and Flight Test TCs co-sponsored, with the Applied Aerodynamics TC, the 2nd AIAA Student Design/Build/Fly competition, resulting in 17 teams; the University of Southern California team was declared the winner. In addition, the Air Transportation Systems and Aircraft Operations TCs worked together to lead the AIAA Aviation Safety Conference. The Multidisciplinary Design Optimization TC led organization and development of an exemplary event—the First Internet Conference on Approximations and Fast Reanalysis in Engineering Optimization, a "virtual conference" sponsored by ISSMO/NASA/AIAA. The TCs of this Group also conducted two workshops during the year.

ENGINEERING AND TECHNOLOGY MANAGEMENT GROUP

Director-Technical: David Riley

Deputy Directors: Tony Gross and Bruce Pittman

This Group has adopted a major new initiative called the "AIAA Delta Forum" which in 1999 will focus on "Issues for the Millennium," including Space Infrastructure, the On-Orbit Economy, and Aviation. The meeting is planned for December 1999 in the Washington, D.C. area. In addition, the Management and History TC continued their support of Global Air and Space '99. The focus for the Management TC will be "Management of Virtual IPT's." The Technical Information TC is being re-energized and new members are being recruited. This entire Group is examining ways it can better serve the AIAA membership including providing traditionally trained engineers with job-related information to broaden or enrich their aerospace perspectives in key areas addressed by the Group's TCs. These ambitious thrusts are a key part of the Group's initiatives from the TAC Family Workshop VI.

INFORMATION AND LOGISTICS SYSTEMS GROUP

Director-Technical: Tom Smith

Deputy Directors: Ed Trujillo and Robert Dellacamera

The TCs of this Group continued their emphasis on contributions to the membership in the continuing dynamics of the aeronautical and astronautical communities. Increased international participation on the TCs has been a major goal and the Group has made great strides. The chairman of the Communications Systems TC is from Canada, and the AIAA Japan Open Forum, composed of several hundred members, has been approved as a subcommittee within the same TC. The Digital Avionics TC has joined the Sensor Systems TC in the practice of distributing a newsletter to interested parties. The Information and Command and Control Systems TC has organized a task force to address a request from DoD to examine joint warfighter experiments, to capture and disseminate lessons learned from joint experimentation related to command and control, and to develop a code of best practices for joint experimentation. The Group's TCs also continued incorporating on-site visits and technical presentations at their TC meetings.

PROPULSION AND ENERGY GROUP

Director-Technical: Don Connell

Deputy Directors: Wayne Hurwitz and Bob Winn

The Propulsion and Energy Group has "taken the point" for TAC in migrating their self-assessment factors into metrics applied to all of the Group's TCs. All of this Group's TCs participated in creating a metric system for evaluating the individual TCs. The Joint Propulsion Conference (JPC) handbook, assembled in 1998, has been published to guide the efforts of future JPC organizers and to maintain the quality of this conference at a very high level. Planning for future JPC's is well under way with selection of planning teams and sponsors for venues in Los Angeles in 1999 and Huntsville in 2000. Approximately 10 percent of this Group's members are non-U.S., and future plans include increases in both non-U.S. and associate members.

SPACE AND MISSILE SYSTEMS GROUP

Director-Technical: Charles Nardo

Deputy Director: Frank Swalley

Exciting changes have occurred in this Group as it sets out to make AIAA the world's leading society for space professionals. Key to this vision is the development of a world-class portfolio of both space conferences and missile conferences. To achieve this, the AIAA Space Technology Conference and Exposition will be hosted by the Air Force Research Laboratory in Albuquerque, NM, and presented in cooperation with the Space Technology Alliance. This follows a very successful presentation of this conference in Huntsville in 1998. Four major missile conferences were presented in 1998 and were complemented by a very timely conference on DoD Acquisition Reform. The Weapon Systems Effectiveness TC planned the first Weapon System Effectiveness Forum held in April 1999 at Eglin Air Force Base. In addition, each TC is making good use of Web sites for TC communications and business.

(Continued on page 7)

PUBLIC POLICY

Joseph Mayer
Vice President

The last year has been a busy one for the Public Policy Committee (PPC) and an important one for AIAA members in general. The PPC helped to shape aerospace policy throughout the Washington policy-making community, particularly on Capitol Hill. In fact, some of the aerospace issues monitored by the PPC all year suddenly became hot issues on the Hill as Congress wound down the 105th session last fall. A last-minute flurry of activity culminated in the passage of the Commercial Space Act. And although Congress failed to pass legislation that would have authorized programs for NASA, several important provisions were addressed in other pieces of legislation. The PPC was involved in the following activities.

ASTRONAUTICS POLICY

AIAA public policy focused on several key astronautics issues in the past year. Maintaining federal R&D funding was the message during meetings with key legislators and their staffs and at committee hearings. Jerry Grey, AIAA Aerospace Policy Director, testified last year at a House Science Committee hearing on NASA's budget. Dr. Grey discussed NASA's aerospace R&D programs and the effects of a strong R&D base.

In one particular effort, AIAA and a coalition of science and technology groups worked together in support of Congressman Vern Ehler's (R-MI) comprehensive science policy study. The report aims to unite Congress behind support of research to keep future science funding stable and substantial. It also recommends that the federal emphasis should continue to fall on basic science because of the federal government's unique role in that area. The coalition plans to stress implementation of the science policy study.

Educating Congress on the importance of commercial space legislation was another key issue for AIAA. Once strictly in the realm of the government, private industry is quickly becoming a major participant in space. Industries ranging from cellular telephone service providers and direct broadcasting to remote sensing are creating demand for launch services. Last spring, AIAA joined with the Aerospace States Association to host a briefing on Capitol Hill on commercial space activities. Congressional staff and the general public had the opportunity to hear panelists discuss different aspects of the aerospace industry and Wall Street's view on commercial trends.

Congress signaled its encouragement for private space commercialization efforts by passing the Commercial Space Act shortly before adjournment. The new law updates and clarifies complex and commercial space licensing requirements. It cuts red tape by giving the Department of Transportation the authority to license the return to Earth of next-generation reusable launch vehicles operated by commercial companies. Private industry had not been allowed Space Shuttle-type atmosphere re-entry under the previous law.

Currently, the Institute is also in the process of assisting federal agencies with conducting assessments of important aerospace issues by providing teams of experts drawn from AIAA's Technical Committees. Workshops for NASA on orbital debris and space solar power are currently under way. The results will be shared with decision-makers in the Administration, Congress, and key agencies. AIAA's image as an "honest broker" ensures impartiality and a strong emphasis on science and technology expertise.

DEFENSE POLICY

Key issues for 1998 include Pentagon internal reorganization, consolidation of the defense industry, the effect of the National Defense Panel, and acquisition reform. Defense R&D funding for science and technology research helps to maintain a strong defense industry. AIAA provides information to Congress on defense issues, and last year Jack Buckner—an AIAA member of the PPC—educated members of the Armed Services Committee on the importance of maintaining a healthy defense R&D budget.

Acquisition reform issues impact many AIAA members as the Pentagon streamlines its operations to become more business-like. The goal is to turn the Defense Department into a modern, agile operation better able to operate in the post-Cold War world. Reform is certain to remain a hot topic as the Pentagon and Congress work to reverse recent budget trends and address readiness shortfalls. At the time this article went to press, the PPC's defense subcommittee was in the middle of reviewing defense reform Web sites to compile a list of relevant sites as a reference tool for members. This will direct users to the best information sources without wasting time for research.

AERONAUTICS POLICY

After witnessing drastic cuts in funding for many of NASA's aeronautical programs year after year, the PPC undertook a proactive effort to reverse this trend. Specifically, the committee was engaged with administration officials by informing them of the need to support long-term funding for NASA's aeronautical programs and the need for maintaining a healthy aeronautics research & technology (R&T) budget. A letter was sent to Vice-President Al Gore and the Office of Science and Technology Policy (OSTP) addressing these issues. Visits to select legislators on Capitol Hill were also a part of this initiative.

In addition, this past August AIAA made an attempt to work with policymakers at the Federal Aviation Administation and OSTP on the need to dramatically update and integrate the many components and emerging technologies of the nation's air traffic control (ATC) system into the next-generation national airspace system. AIAA hopes to have an impact in assisting federal agencies in the implementation of a "systems engineering approach" to achieving a standard and protocol that can be accepted on a worldwide basis.

CONGRESSIONAL VISITS DAY

In March, AIAA staff accompanied nearly 120 members to participate in an outreach effort to Congress and the Executive Branch regarding the need to support long-term R&T throughout NASA and DoD. It was also a chance to inform and educate policy makers of the many engineering and scientific disciplines that comprise the aerospace workforce. This activity was truly an opportunity for all AIAA members to communicate their areas of expertise or field of study to congressional officials, many of whom may know very little about the aerospace profession. ■

Charles and Michael Pinson (pictured left and center) of Knowledge Access International Inc.—an AIAA corporate member company—discuss aerospace R&D funding with Senator Conrad Burns (R-MT) at the March 1999 Congressional Visits Day.

TECHNICAL ACTIVITIES (*Continued from page 6*)

STRUCTURES, DESIGN, AND TEST GROUP

Director-Technical: Larry Pinson

Deputy Directors: Eric Schwartz, Charley Saff, and Jeff Haas

This Group continues to focus on exciting initiatives as it prepares for the new century. The newly formed Adaptive Structures TC sponsored its first sessions at the Structures, Structural Dynamics, and Materials (SDM) Conference. Evolution of the SDM Conference continues with a non-deterministic methods forum planned in the 1999 SDM and a forum on inflatable space structures in SDM 2000. A large effort for the Group in 1998 was the selection of a recipient for the prestigious Walter J. and Angeline H. Crichlow Trust Prize. I'm pleased to report that Lucien Schmit, Rockwell Chair Professor of Aerospace Engineering (Emeritus) at the UCLA School of Engineering and Applied Science, was selected. In addition, the Design Engineering TC completed a major upgrade of the *Aerospace Engineers Design Guide*, and it has been adopted as a recommended or supplemental text at several universities. Also, the Ground Testing TC continues its contributions to the profession with working groups for internal balance technology, wind tunnel calibration, test processes, flow quality, and thrust stands. ■

STANDARDS

John Casani
Vice President

STANDARDS DEVELOPMENT PROJECTS

Much intensive activity in recent years has yielded several significant additions to the collection of AIAA standards publications. The long-awaited AIAA Standard for Commercial Launch Safety is complete and is consistent with Federal Aviation Administration (FAA) requirements for licensing of launches from non-federal sites.

The first AIAA standard based on a former military standard is also complete. Mil-Std 1522A is now ANSI/AIAA S-080-1999, "Space Systems-Metallic Pressure Vessels, Pressurized Structures, and Pressure Components." Its companion covering composite structures is nearing completion. The same materials are being promulgated internationally through the International Organization for Standardization (ISO) process.

The AIAA Committee on Standards for Atmospheric and Space Environments, has completed three new publications. These cover models for the ionosphere, space radiation, and global aerosols. They complement both the previous work and the international projects nearing completion.

Through a cooperative endeavor with the U.S. Air Force, the specifications for Global Positioning System (GPS) receivers to be used on launch vehicles for range safety tracking at the Eastern and Western Ranges will be documented as an AIAA Standard. An integrated product team, guided by Air Force procurement officials and led by an industry chair, prepared the requirements in an 18-month period. They will be used on test flights beginning in 2002.

The AIAA Web site has become an integral tool in the standards development process. Committees on Standards may also post documents in development for access by their members in order to maintain progress between meetings. Work at this stage includes restricted access. All draft documents are offered for comment by the membership and other interested parties prior to final approval. New standards publications, both domestic and international, are promoted through the Web site.

ISO ACTIVITY

Six years of leadership as Secretariat for the ISO International Committee for Space Systems and Operations have resulted in the first publication of an ISO Standard for space hardware. ISO 14625:1999, "Space Systems—Ground support equipment for use at launch, landing, and retrieval sites—General requirements," has been published and is in effect. At least six more projects will be completed during the next year.

The annual plenary meeting of ISO Technical Committee 20/Subcommittee 14 (TC20/SC14) was held in Italy in May 1999. AIAA Associate Fellow Larry Andrews again led the U.S. delegation, and the group nominated AIAA Fellow Macgregor Reid for another term as chairman. This ISO committee has several pages on the AIAA Web site; the work program and future meeting plans are provided there.

COLLECTION OF PREFERRED SPACE-RELATED STANDARDS

At the May 1998 Board of Directors meeting, the plan to develop a "Collection of Preferred Space-Related Standards" (CPSRS) was approved. AIAA's purpose in this effort is to help space companies and their suppliers effectively deal with acquisition reform in government agencies and improve their own procurement communications. This subscription service will provide title, abstract, date, developer, other associated features, and full text based on the subscription level.

Industry teams will assemble CPSRS by examining several thousand standards and specifications that might be suitable for space use. They will distill the most applicable and useful ones into a collection that will form the basis for corporate standards throughout the industry.

The development of on-line review software has been accomplished, most of the standards for review have been gathered, and a business partnership has been established with Information Handling Services, a provider of standards products, which is giving us access to standards through its Web site. ■

FINANCE

J. Michael Murphy
Vice President

OPERATIONS

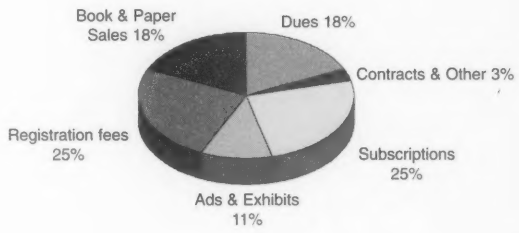
The table below summarizes the audited financial performance of Institute operations:

	1998 (In thousands)	1997 (In thousands)
Revenues	$14,531	$13,368
Expenses	16,454	15,023
Net From Operations	($1,923)	($1,655)

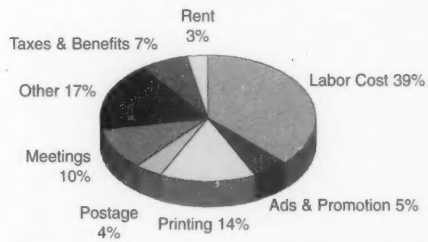
The Institute has intentionally invested more than $800,000 in the membership through funding of the Collection of Preferred Space-Related Standards, Electronic information Services, and Evolution of Flight programs described in other sections in this annual report. This funding accounts for a major portion of the operational deficit in FY98.

The graphs below show the composition of the operational revenues and expenses:

1998 Revenues



1998 Expenses



INVESTMENTS

The Institute's investment portfolio finished the 12-month period about where it started. The portfolio increased slightly from $26.2 million on 1 October 1997 to $26.3 million on 30 September 1998.

I appreciate the support from the other members of the Finance Committee whose tireless efforts and timely advice made the last year both successful and fun. Thanks to Ed Brady, Dick Culpepper, Klaus Dannenberg, Mike Francis, Bill Dean, Jeff Haas, Roger McNamara, Denis Curtin, Jerry Florey, Sid Pauls, Ken Sanger, George Seibert, and Woody Waesche. I'd also like to thank the AIAA staff, especially Dave Quackenbush, Bill Seymore, Ernesto Eusebio, and Carol Stewart, whose efforts in pulling together all the numbers and making sense of them for the rest of us was critical and is greatly appreciated. ■

The following individuals were inducted as **Fellows** and **Honorary Fellows** at the Global Air & Space '99 International Business Forum held 3–5 May 1999.

FELLOWS

Fellows are persons of distinction in aeronautics or astronautics who have made notable and valuable contributions to the arts, sciences, and technology thereof.

Siva S. Banda
Air Force Research Laboratory

Itzhack Y. Bar-Itzhack
Technion-Israel Institute of Technology

John A. Benek
Micro Craft Incorporated

Robert E. Berry
Space Systems/Loral

Pierre C. Bétin
SNECMA

Melvin R. Brashears
Lockheed Martin Corporation, Retired

Charles A. Chase
Pratt & Whitney

Alok Das
Air Force Research Laboratory

Dallas G. Denery
NASA Ames Research Center

Harold B. Finger
Consultant

Louis D. Friedman
The Planetary Society

Jack S. Gordon
Lockheed Martin Corporation

Dennis J. Granato
Gen Corp-Aerojet

John E. Green
Aircraft Research Association

Gerald M. Gregorek
The Ohio State University

Paul G. Kaminski
Technovation Incorporated

Lawrence A. Kennedy
University of Illinois at Chicago

Paul L. Klevatt
The Boeing Company

Walter Kröll
DLR

J. Wayne Littles
Lockheed Martin Corporation

John M. Logsdon
The George Washington University

D. Lewis Mingori
University of California at Los Angeles

Robert H. Page
Texas A&M University, Retired

Winfred M. Phillips
University of Florida

Daniel C. Reda
NASA Ames Research Center

Eric E. Rice
Orbital Technologies Corporation

Donald W. Richardson
Science Applications International Corporation

Vladimir A. Sosounov
Central Institute of Aviation Motors, Moscow

Robert E. Whitehead
NASA Headquarters, Retired

Rudolph N. Yurkovich
The Boeing Company

HONORARY FELLOWS

Presented only to exceptional individuals who embody the highest standards in the aeronautics and astronautics field. The Honorary Fellow is the highest accolade bestowed by AIAA and its Board of Directors.

Vance D. Coffman

Chairman and Chief Executive Officer
Lockheed Martin Corporation

For significant contributions to the nation's scientific and classified space programs, and for exceptional leadership in aerospace industry engineering and business management.

A. Scott Crossfield

Consultant
Crossfield Associates

For a lifetime of contributions as an aeronautical engineer and aviator in the arena of advanced technology application and demonstration, and as the first pilot to fly Mach 2 and first to successfully fly at Mach 3.

Philip M. Condit

Chairman and Chief Executive Officer
The Boeing Company

In recognition of his vision, guidance, and leadership toward advancing safe, reliable commercial air transportation, fostering new global partnerships, and guiding a new Boeing into the 21st century.

Boris Laschka

Professor
Technical University of Munich

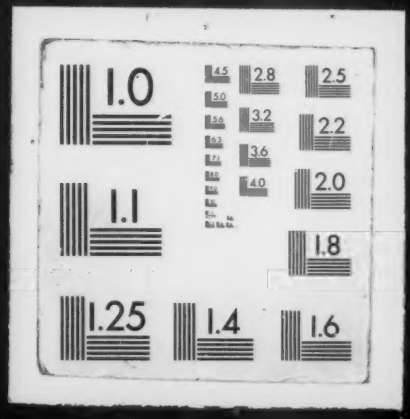
For outstanding leadership and contributions to international cooperation in aeronautical sciences and for more than four decades as an excellent researcher and professor in the fields of aerodynamics and aeroelastics.

CORPORATE MEMBERS

The corporate membership program was successful during the year despite the continued trend of mergers and acquisitions in the aerospace industry. AIAA remains committed to adding value to our corporate membership program and to finding ways in which AIAA may assist its member corporations reach their goals in the next millenium. Our roster of corporate members currently totals 55 of the world's leading aerospace companies, and we gratefully acknowledge their support and participation in AIAA's many programs designed to create an environment that fosters the future of aerospace.

Aerojet
The Aeronautical Research Institute of Sweden (FFA)
The Aerospace Corporation
Aerospatiale (France)
Airbus Industries, N.A. (France)
Alenia (Italy)
Analytical Graphics
ANSER
Atlantic Research Corporation
The Boeing Company
Booz-Allen & Hamilton, Inc.
British Aerospace plc (United Kingdom)
BTG
Calspan, An Operation of Veridian
CEI, Inc.
Cessna Aircraft Company
Charles Stark Draper Laboratory, Inc.
Command and Control Technologies
Comoti, S.A. (Romania)
CTA/Technology Institute of Aeronautics (Brazil)
DaimlerChrysler Aerospace (Germany)
DLR (Germany)
Fuji Heavy Industries, Ltd. (Japan)
GE Aircraft Engines
Gec-Marconi Limited (Great Britain)
Hewlett-Packard Company
Hughes Space and Communications Company
Integrated AeroSystems LLC
Intelligent Light
Knowledge Access International Inc.
Lockheed Martin Corporation
MAN Technologie AG (Germany)
Micro Craft, Inc.
The MITRE Corporation
Mitsubishi Heavy Industries, Ltd. (Japan)
Motorola Satellite Communications Company
National Aerospace Laboratory/NLR (The Netherlands)
Northrop Grumman Corporation
Orbital Sciences Corporation
Orbital Technologies Corporation
R. Dixon Speas Associates, Inc.
Raytheon Company
Rockwell International
SAIC
Shimizu Corporation (Japan)
SNECMA (France)
SPACEHAB, Inc.
Space Systems/Loral
Sverdrup Technology, Inc.
Swales Aerospace
Thiokol Propulsion from Cordant Technologies
TRW, Inc.
United Space Alliance, LLC
United Technologies Corporation
XonTech, Inc

American Institute of
Aeronautics and Astronautics
1801 Alexander Bell Drive, Suite 500
Reston, VA 20191–4344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